FISHER M-SCOPE

CZ-7a PRO Quicksilver

Deep Search, Body Mount, Target I.D. Metal Detector

Operating Manual

FISHER RESEARCH LABORATORY

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ABOUT YOUR DETECTOR

Your CZ-7a Pro is an extremely advanced and sophisticated instrument. It combines deep seeking, microprocessor, target-I.D. technology with user friendly controls and a very rugged and unique body-mount control housing.

1. Easy to Use: Just set the ground-balance knob on the red 5, push the "PRESET' touch pad and you're ready to start searching in a "coins only" mode. For maximum performance, you can easily adjust the CZ-7a Pro for your own specific situation. Ground balancing and fine tuning with the touch pads is quick and simple.

2. Tactile Feedback Touch-Pad Controls: Raised touch pads give a positive click when pressed. Unlike many touch pads, you know when you're touching them-without looking; and you know when you've entered a command.

3. Liquid Crystal Display with Back-Light: A large liquid-crystal display gives you quick and accurate information about the target, operating mode and battery condition. Use this function sparingly as it will significantly reduce battery life.

4. Notch Discrimination: You can selectively ignore or accept any combination of seven small-target classifications: iron, round pull tabs, rectangular pull tabs, foil, zinc pennies, nickels and a category including copper pennies and other U.S. clad and silver coins.

5. Visual Target ID.: A microprocessor-controlled display registers one of seven small-target categories. When the powerful, dual-frequency CZ-7a Pro classification system makes an identification, a marker appears on the LCD under the appropriate target-category icon. If identification is difficult due to irregular size, conductivity or depth, the CZ-7a Pro will alert you by jumping back and forth between the two most likely categories.

6. 3-Tone Target I.D.: A low tone for iron; a mid-tone for pull tabs, foil and most gold rings; and a high tone for U.S. coins, silver rings and some gold rings.

7. Target Separation: It's a sad-but-true fact that most gold rings, pull tabs, foil and nickels fall into the same conductivity range, meaning that a detector user has to dig a lot of trash to find rings and nickels. But the CZ-7a Pro separates the nickels from the trash and even separates the tabs from the foil so the ring hunter can determine just how much trash he's willing to put up with. For example, in an area heavily infested with nails and foil, you can set the CZ-7a Pro to ignore iron and foil and still dig nickels, other coins and all gold rings falling into the nickel and pull-tab categories.

8. Silent-Search, Slow-Motion Target I.D. Mode: No threshold tone; no chatter. The audio and visual target ID. circuits ignore everything you've "notched" out. For example, if you've notched out iron targets, you'll never hear the low "iron" tone, and you'll never see a marker under the iron icon.

9. All-Metal Autotune Mode: Hot, smooth running, wide-scan search mode for all-metal treasure hunting and prospecting.

10. Pushbutton VCO Pinpointing and Depth Reading: Push the PINPOINT touch pad and the CZ-7a Pro operating mode changes to no motion. The search coil doesn't have to be moving to locate a target. The signal tone increases in pitch and volume as the center of the coil approaches the target. Target depth is displayed in inches.

11. Touch-Pad Ground Balancing: Just press the pinpoint touch pad and lower the coil to the ground. Then set the ground control just below the audio tone and you are precisely tuned for on-site conditions.

12. Depth: Patented Fourier Domain Signal Analysis. Two deep-seeking, ground - compensating VLF signals (one at 5 kHz and one at 15 kHz) provide twice as much target information for accurate analysis and identification.

13. Faint-Target Audio Boost: The lower range of the volume control of the CZ-7a Pro is like any other that you've used. But as you increase the volume above mid range, strong target sounds remain at a fixed volume while faint, deep-target sounds continue to get louder.

14. Big-Target Alert: Ordinary detector circuits overload on large, shallow targets, identifying them as good targets. But not the CZ-7a Pro. A distinctive belt tone immediately warns you that the target signal is too strong to identify.

15. Wet Sand Operation: Just press the NORM/ SALT touch pad, reset the ground control and you can search wet salt-sand like nobody's business. In fact, you can submerge the coil for shallow saltwater beachcombing.

16. Splashproof, Rainproof, Dustproof: The control housing is sealed and the battery compartments have their own gaskets. The search coil is submersible. The cable connector and headphone jack (when the phone plug is inserted) are splashproof. The CZ-7a Pro is not submersible, but rain and dust are no problem, and the speaker is splashproof.

17. Drop-In Batteries: No wires, no clip, no hassle. Just drop in two 9volt transistor batteries.

18. Constant Battery Monitor: You always know the condition of your CZ-7a Pro batteries. Three bars on the Liquid Crystal Display indicate fully charged batteries. Two bars means they're about half gone, and one bar means it's time to replace them.

19. Adjustable, Double-Locking Lower Stem: Fiber glass reinforced nylon stem with a steel spring clip to keep it in perfect alignment and a positive grip injection-molded ABS lock nut.

20. Balanced and Comfortable: The universal arm rest detector stand along with Fisher's "S" handle design and pistol-grip mounted control housing give the CZ 7a Pro superior balance and maximum comfort.

21. Spider Coils: Your choice of an all-purpose, 8-inch Spider coil or a deep-seeking 10 1/2-inch Spider coil. They're light, tough and have open centers for accurate pinpointing. The hot, little 5-inch coil is great for extremely trashy areas, tight spots or highly mineralized ground.

22. Three-Piece Breakdown: The CZ-7a Pro breaks down to fit into an optional carrying case not much bigger than a briefcase and small enough for most airline carry-on luggage.

23. Last-Setting Turn-On Memory: When you turn your CZ-7a Pro on, it automatically sets the Sensitivity, Volume, Notch and Mode exactly as they were when you turned it off (even if the batteries have been removed!). Note that no battery drain is required to retain your last settings in memory.

24. Body Mount or Handle Mount: Just slide the control housing off the handle grip, snap on the belt loop and put it on your belt. What's left is so light it will feel like part of your arm.

Read this instruction manual thoroughly, practice often and you're in for some exciting treasure hunting. Drop us a line if you have any questions, comments or good finds to tell us about. In the meantime. . .

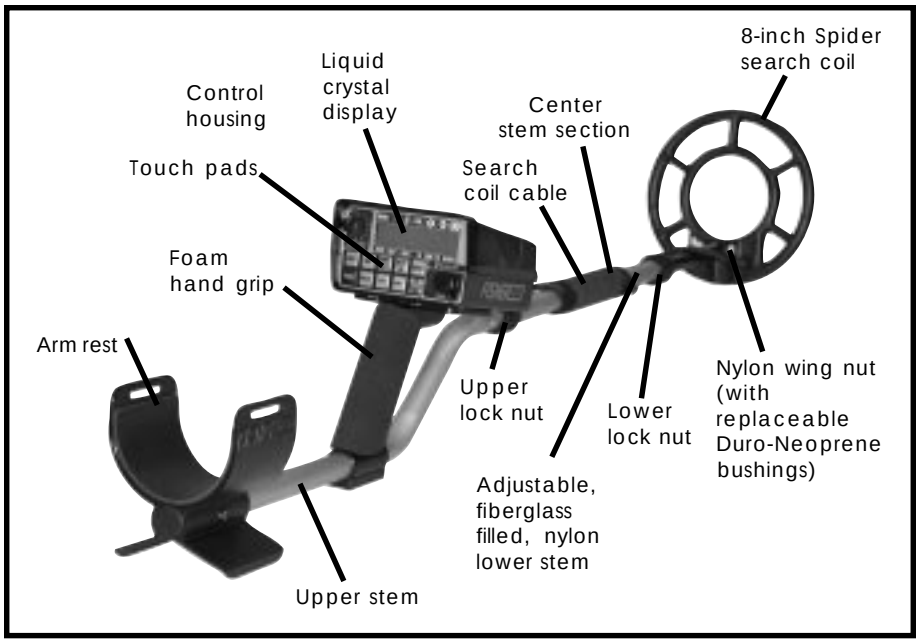
Happy Hunting,

FISHER RESEARCH LABORATORY

SETTING UP

Your Fisher CZ-7a Pro QuickSilver is built to last for years. However, it's a sophisticated electronic instrument containing state-of-the-art components. Handle it carefully, care for it regularly, and it will give you years of dependable service. The CZ-7a Pro requires little assembly.

1. Unpack your CZ-7a Pro carefully and save the carton: it may come in handy if you ever have to return the instrument for service.
2. Slip the lower stem into the upper stem.
3. Adjust the stem length and coil angle so that the search coil rests flat on the ground about 6 to 12 inches in front of and slightly to the right of your right foot (to the left of your left foot for left handers). Your arm should be straight and relaxed, the grip held loosely (see drawing on next page). The stem length is adjusted by loosening the lower lock nut and allowing the



spring clip to snap into one of the holes in the center stem. The coil angle is adjusted by loosening the nylon wing nut on top of the search coil.

NOTE: *Remember, the longer the shaft, the more you'll have to bend your elbow to keep the coil off the ground and the sooner your arm will get tired. The CZ-7a Pro is balanced for comfortable searching in a tight semicircle around the front of the operator.*

4. With the stem length properly adjusted, wrap the search coil cable snugly around the lower stem and the center section. Leave just enough slack near the coil to allow it to be tilted completely backward and forward.

NOTE: *A loose cable near the search coil may cause false signals, but don't wrap it so tightly that it pulls against the housing or the coil.*

Adjust the stem length and coil angle so the coil rests flat on the ground about 6 to 12 inches in front of your foot. Move into your "search" position by leaning slightly and raising the coil about 2 inches off the ground. This should put the coil about 12 to 18 inches in front of your lead foot.

5. Reconnect the coil cable to the control housing. Be careful not to cross thread it and make sure it's snug, but hand tighten only.
6. With the shaft length and coil angle properly adjusted, you should be able to move into your search position by leaning forward very slightly and raising angle so the coil rests flat on the ground about 6 to 12 inches in front of your arm.
7. (when using optional headphones)
Plug the headphones into the HEADPHONES jack on the control panel.

BODY MOUNTING

1. Disconnect the cable from the control housing and unwind all but the last 12 inches or so from the stem. Secure the lower end of the cable with a Velcro strap at least 12 inches up from the coil.
2. Remove the control housing from the pistol grip by holding the grip with one hand and sliding the housing toward you wilth the other hand.
3. Attach the belt loop to the control housing by slipping it over the brass posts on the bottom of the control housing and pulling it toward the control panel to lock it in place.
4. Reconnect the cable to the control housing.
5. The control housing can then be mounted on your belt or on the optional Fisher Chest Harness, which is especially useful for shallow water hunting.

It is especially important that the cable connector be installed tightly to prevent false signals during body-mount use. Tight, but never tightened with anything but your hands.

Remove the control housing from the stem by holding the pistol grip and pulling back on the control box
FISHER
Once removed from the stem, the CZ-7a Pro controlbox can be hipmounted, leaving only the stem and search coil to swing
An optional chest-mount harness is available.

For belt mounting, left handers should wear the housing on their right hip and right handers should wear it on their left hip.

TURN-ON-AND-GO 'PRESET' OPERATION

Your CZ-7a Pro Quicksilver is fairly simple to operate, especially when compared to other target-I. D. machines. Even so, we strongly recommend that you read this entire manual. You'll be able to tune your CZ-7a Pro to your specific needs and ground conditions. And if you have a good understanding of how to ground balance and why, you'll find more.

But if you just can't wait any longer, and you're an experienced detector user, here's some quick instructions to get you going:

1. If using optional headphones: Plug your headphones into the jack on the control panel and put them around your neck.
2. Turn the power on by rotating the the GROUND BALANCE knob clockwise to the red 5.
3. Press and release the PRESET touch pad.
4. Your CZ-7a Pro is now in a "coins-only" mode, preset at the factory to accept U.S. coins and reject small ferrous and aluminum trash.
5. You are ready to begin your search at this point, but first, if using optional headphones, put them on and pass the coil over a large target. If the response is too loud or not loud enough, adjust the volume by pressing and releasing the VOL touch pad and pressing the left/right arrows touch pads. Press and release the SEARCH/ PINPOINT pad to exit the Volume function and activate the Search mode.
6. As you begin your search, keep in mind that the GROUND BALANCE setting of 5 may not be

To use the turn-on-and-go feature of your CZ-7a Pro, turn the GROUND BALANCE knob to the red 5 preset mark and touch and hold the PRESET touch pad.

optimum for the ground you're searching, and that's why your sensitivity is set relatively low-to minimize false signals caused by ground mineralization.

7. Travel slowly, overlap your sweeps and keep the search coil moving. Remember, you're in a "motion" search mode, and the coil must be moving at least slightly to detect a target.

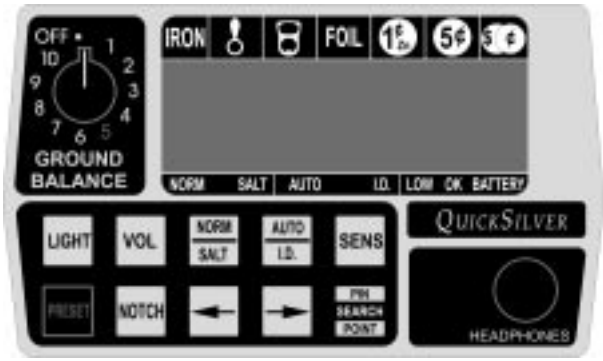
8. When you get a good, repeatable signal, pinpoint the target by placing the coil on the ground away from the target, pressing and holding the SEARCH/ PINPOINT pad and then bringing the coil back over the target.

9. Once you've pinpointed the target, note the approximate depth reading on the LCD, then identify the target by releasing the pinpoint button and moving the coil side to side in short strokes over the target. A cursor will lock under the appropriate target classification.

CONTROL PANEL

Note that the touch pads are slightly raised so that you can actually feel them. When you press these custom touch pads you can feel and hear a definite "click (so you know the switch has been activated).

The CZ-7a Pro control panel features a manual, analog knob for ground balance and 10 custom, microprocessor controlled touch pads for all other functions.



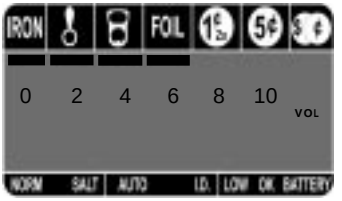
GROUND BALANCE, ON/OFF: This knob turns the unit on and off and compensates for ground mineralization when used in conjunction with the SEARCH/PINPOINT touch pad. (See p. 17 for more on Ground Balancing). 5 is the preset (red) position.

When the power is turned on, the volume, sensitivity, notch and made functions are automatically set at the same levels they were when last turned off (this is true even if the batteries have been replaced.)

LIGHT: When pressed momentarily and released, the LCD is backlit for night searching. Press and release to turn off. *Use this function sparingly as it will significantly reduce battery life.

VOL: Press and hold until the numbers 0-10, a row of cursors and the abbreviated word "VOL" appear. Adjust the volume by using the left-right arrow touch pads. Volume is gradually increased from settings 0 to 4. From 6 to 10, the faint-target audio boost function becomes active; loud target response remains constant while faint, weak

LCD when VOL pad has been pressed and volume is set to 6 using Arrow touch pads.



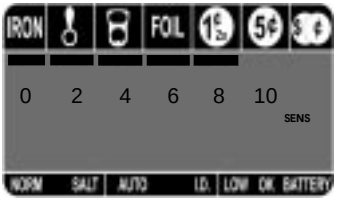
targets continue to get louder. Exit the volume function by momentarily pressing and releasing the SEARCH/PINPOINT touch pad.*

NORM/SALT: Press momentarily and release to select either the NORM or SALT mode. A cursor will remain above the appropriate mode name (NORMAL or SALT). Use the SALT mode when beach hunting on wet sand.

AUTO 5 AUTO/I.D.: Press momentarily and release to change from the Autotune mode to the Target I.D. mode or vice versa (this should take less than a second). A cursor will let you know which mode you are in. (See p. 17 for more on the Autotune mode.)

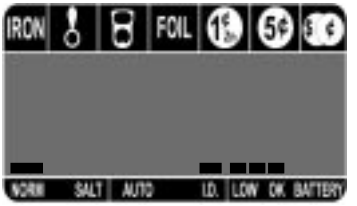
SENS: Press and hold until the numbers 0-10, a row of cursors and "SENS" appear. Adjust sensitivity as you did the volume above. Exit the sensitivity function by momentarily pressing and releasing the SEARCH/PINPOINT pad.*

LCD when SENS pad has been pushed and sensitivity is set to 8 using the Arrow touch pads.



PRESET: When this pad is pressed and held momentarily, the CZ-7a Pro defaults to the factory preset control settings:

Factory preset control settings on LCD when PRESET pad has been pushed.



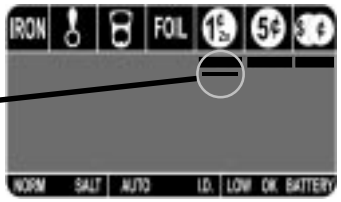
When searching in the PRESET mode, you can set the GROUND BALANCE knob to the red 5 or you can adjust it in accordance with the ground balancing procedure.

VOL = 6
NORM/SALT - NORM
AUTO/I.D. = I.D.
SENS = 4
Notch Discrimination = accepts - coins only

** You can check your Volume and Sensitivity levels by passing the search coil over targets while in either the VOLUME or SENSITIVITY modes. Be sure to press and release the SEARCH pad, however, when you are ready to begin your actual search.*

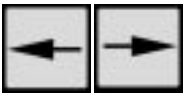
***CAUTION:** If you press the PRESET pad by mistake, there is no indication on the LCD to alert you to the fact that you may have changed your volume, modes, sensitivity and notch settings.*

NOTCH: Press and hold the NOTCH pad until you see a cursor appear below the row of target icons. Accept or reject target categories by moving the cursor back and forth beneath the target icons with the left-right arrow touch pads and pressing NOTCH when the cursor is below the selected target. A visible marker means the target will be accepted. When NOTCH is pressed and the cursor is below a marker, the marker will disappear and the target will be rejected. If the NOTCH pad is pressed below a target with no marker, the marker will appear and the target will be accepted. Exit the NOTCH function by pressing and releasing the SEARCH/PINPOINT pad. To check your notch settings over actual targets, make sure you're in



LCD in NOTCH mode rejecting iron, pull tabs and foil and accepting coins. Notice the cursor under the Zinc penny notch marker.

the I.D. and SEARCH/PINPOINT modes.

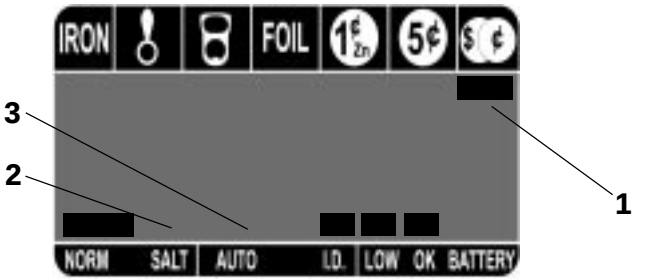


LEFT-RIGHT ARROWS: These Arrow touch pads are used in conjunction with the VOL, SENS and NOTCH functions. Adjustments are made by first pressing a function pad, and then pressing the appropriate Arrow pad, which moves the cursor left or right one space across the LCD. When in the Notch function, the cursor is positioned below the appropriate icon to accept or reject that category of target. Use the Arrow pads to also adjust the volume and sensitivity. For these functions, a bar graph appears on the LCD and the Arrow pads increase or decrease the value.

SEARCH/PINPOINT: Press and release this pad to get out of the Volume, Sensitivity and Notch functions. You must do this if you are in one of these functions (VOL, for example) and you want to get into another function (NOTCH, for example). Pressing and releasing this pad also puts you into the SEARCH/ PINPOINT mode when you're ready to start hunting.

HEADPHONES: 1/4-inch jack for most stereo headphones. When not in use, always keep the captive phone-jack plug (not shown) fully inserted to keep out dust and moisture. The control housing is not weatherproof unless a headphone jack or the phone jack plug is in place.

LCD in SEARCH mode identifying a silver or copper coin.

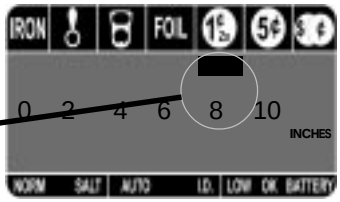


When in the SEARCH mode, the LCD displays the following as indicated by separate markers:

1. Probable target I.D. (when in the I.D. mode)
2. NORMAL or SALT mode operation.

3. Autotune or Target I.D. made
4. BATTERY condition. Three markers indicate a full or near-full charge. Two markers indicate the batteries have some hours on them but are still OK. One or no markers mean that it's time to change batteries.

LCD in PINPOINT mode when SEARCH/ PINPOINT pad is pressed and held.
According to the LCD, the target is approximately 8 inches deep.



When pressed and held, the SEARCH/PINPOINT pad also can be used for pinpointing, depth reading and ground balancing. ***However, when pinpointing or depth reading, the SEARCH/ PINPOINT pad must be held just a little bit longer than the other pads (maybe half a second longer) before it goes into action.*** For depth reading, hold the search coil on the ground, away from the target, then press and hold the SEARCH/ PINPOINT pad until the numbers 0-10 appear on the LCD along with a marker and the word "INCHES." Then you can pinpoint and/or depth read by continuing to press the SEARCH/ PINPOINT pad and moving the search coil back over the target. The approximate depth in inches is indicated by the position of the markers over the numbers. When pressed and held, the SEARCH/PINPOINT pad puts the CZ-7a Pro into a "no-motion" mode for easy pinpointing (the search coil doesn't need to be moving to detect a target).

TURN ON PROCEDURE

1. (optional) Adjust your headset volume controls to minimum, and plug the headphone jack into the CZ-7a Pro control panel. Leave the headset around your neck for now.

2. When you first turn the power on, you will probably notice a momentary display on the LCD. This is normal for the CZ-7a Pro. Set your controls as follows:

GROUND BALANCE = 10
AUTO/I.D. = I.D. for normal use in target I.D. mode.
(use AUTO mode for deep search, all-metal, autotune mode)
SENS = 10
VOLUME = 0
NORM/SALT = NORM for normal search areas (use SALT mode for wet sand hunting)

3. (optional) Put your headset on and gradually increase the CZ-7a Pro volume to a comfortable level when the coil is passed over a large, shallow target.

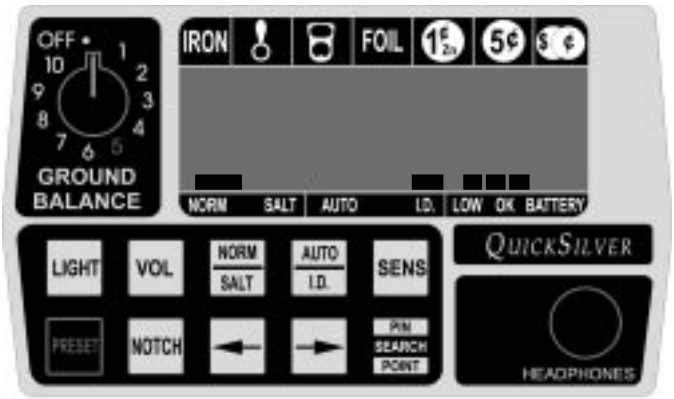
NOTE: *If your headset has volume controls, first adjust your headset volume controls to minimum and the CZ-7a Pro volume to maximum. Then gradually increase the headset controls to a comfortable level when the coil is passed over a target. Note that small, deep targets now respond with the same loud zap as large, shallow targets. To defeat the faint-target, audio boost feature, adjust the CZ-7a Pro volume to 4 or lower.*

GROUND BALANCING

Metal detectors like the CZ-7a Pro operate by generating an electromagnetic field from the search coil into the ground. When this field surrounds a metallic object, it becomes distorted and the distortion is recognized as a target by the CZ-7a Pro electronic circuitry.

Ground mineralization can also distort a search coil's electromagnetic field, and a detector may respond to ground minerals just as it would to a real target. You can minimize these "false signals by ground balancing the CZ-7a Pro circuitry so it will ignore most ground mineralization.

When your CZ-7a Pro Quicksilver is properly "ground balanced," it will have only a minimal response to ground mineralization. Precise adjustment of the GROUND BALANCE control is critical for optimum performance. The higher the degree of ground mineralization or the higher the sensitivity setting, the more critical it is to have your machine properly ground balanced. Once you adjust the ground balance in either the Autotune mode or Target-LD. mode, you can switch back and forth between the two modes without resetting, unless you increase the sensitivity level or go from dry sand to wet sand or vice versa. You should also recheck your ground balance setting occasionally as you search because ground conditions often change within a few feet.



The audio target response of the CZ-7a Pro is loud, sharp and abrupt. Be sure to set the VOL touch pad to 0 before turning on your CZ-7a Pro while wearing the headphones.

If you have difficulty ground balancing, try reducing your sensitivity level or moving to another spot just in case you are over a buried piece of metal. In some areas of high ground mineralization you may not be able to use the pushbutton method.

> ***IMPORTANT NOTE:*** *If you body mount your CZ-7a Pro, you'll find that the "Bobbing" method is the easier of the following two ground balancing methods.*

"Pushbutton" Ground Balance Method

This will probably be your method of choice unless you have body mounted your CZ-7a Pro or you are in highly mineralized ground. It's fast, easy and accurate. You can use this method in either the Autotune or Target LD. mode.

1. With your controls set as in the "Turn-On" procedure (See page 9/GROUND BALANCE control at 10), hold your search coil parallel to the ground and 6 to 12 inches off the ground.
2. Make sure you're at least 3 feet away from any metal objects.lower the coil to the ground. Keep your thumb on the SEARCH/PINPOINT button, and with your other hand, rotate the GROUND control counterclockwise (starting at 10) until you hear an audio tone. Then back off to the exact point where the tone disappears. Release the SEARCH/PINPOINT touch pad and you're ground balanced and ready to search.
3. Always ground balance your CZ-7a Pro in the areas you intend to search.

NOTES:

1. If you get an audio response as you first lower the coil with the GROUND BALANCE knob at 10,

you're probably over a piece of metal. Move away and try again.

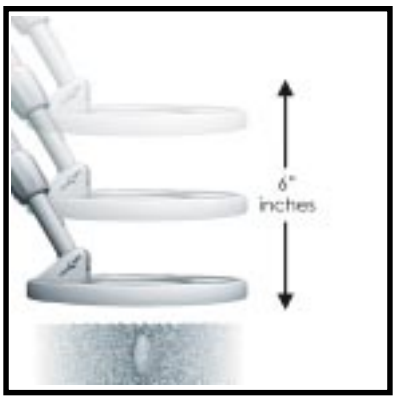
2. If you get a sudden bell tone that is not preceded by an increasing audio response as you lower the coil, you're probably in some very highly mineralized soil or sand. In this case, it's best to use the "Bobbing" method. paying particular attention to the notes on p. 17.

3. If you don't get any audio response, or just a very faint tone as you rotate the GROUND control from 10 all the way to 0, you're probably in an area where there's very little ground mineralization. Just leave the GROUND control at 10 and begin searching.

"Bobbing-the-Search-Coil" Ground Balance Method

1. Set the detector as in the Turn-On procedure on p. 9, making sure the AUTO/I. D. control is set to AUTO. With your sensitivity set to 10, you should be able to hear a slight "threshold" hum. Hold the search coil parallel to the ground, about 6 inches over the ground and at least 3 feet away from any metal objects.

Ground balancing your CZ-7a Pro using the "bobbing" method can be more accurate than the "pushbutton" method described on the opposite page. However, it takes a little more practice to get it right. The "bobbing" method is accomplished while your CZ-7a Pro is in the Autotune mode.



2. Lower the search coil to an inch or two above the ground. Now, quickly raise the search coil. Note that as you lower the coil, the tone dies out and then gets louder as you raise it. Finally, the tone returns to normal when you stop it about 6 inches above the ground. Conversely, if you set the GROUND control to 1, the threshold hum gets louder as you lower the coil and dies out when you raise it.

3. Your objective now is to adjust the GROUND BALANCE control so that no change, or only a minimal change, occurs in the volume of the threshold hum as you bob the coil up and down. Set the GROUND BALANCE control to 9 and then lower the search coil and raise it again. As you bob the search coil, one of three things will happen to your threshold hum:

1) It will fade again as you lower the coil and increase as you raise it.

2) It will get louder as you lower the coil and go silent as you raise it.

3) The hum will remain the same, or if it changes slightly, the change is the same whether you lower or raise the search coil.

4. If the hum remains the same or changes only slightly, your CZ-7a Pro is properly ground balanced and you are ready to begin your search.

5. If the tone fades as you lower the coil, continue to lower the GROUND BALANCE setting in small increments until the threshold hum remains the same (or changes very little) as the coil is lowered and raised.

6. If the hum gets louder as you lower the coil, you have gone past the correct ground balance setting. Increase the GROUND BALANCE control

in small increments until there is little or no change in the threshold hum as you bob the search coil.

7. With a little practice, you should be able to ground balance quickly by "bobbing" the search coil up and down in a continuous movement as you adjust the GROUND BALANCE control with your thumb.

The "bobbing" method takes a little more practice, but you may find it slightly more accurate. You may hear and see fewer false signals if you're in highly mineralized ground. Or if you're hunting in the AUTOTUNE mode, be sure to use the "bobbing" method.

NOTES:

1. If you get an audio response as you first lower the coil, with the GROUND BALANCE control at 10, you're probably over a piece of metal. Move away and try again.

2. If you get a sudden bell tone, not preceded by an increasing audio response, you're probably in some very highly mineralized soil or sand. Instead of lowering the coil to an inch or two above the ground, stop just before you hear the bell tone and ground balance a few inches above the ground. Because of highly mineralized ground conditions, it will be necessary to lower your sensitivity and maintain that coil height as you search.

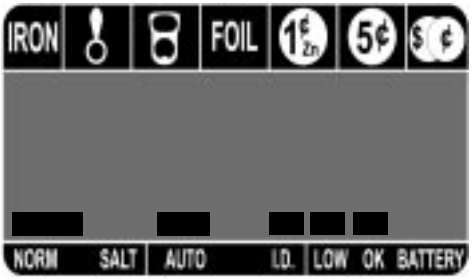
3. If you don't get an audio response, or if the hum stays about the same, no matter where you set the GROUND BALANCE control as you bob the search coil up and down, you're probably in an area where there's very little ground mineralization. Just leave the GROUND BALANCE control set to 10 and start searching.

SEARCH MODES

Your CZ-7a Pro has two search modes: Target I.D. and Autotune. Both search modes are "motion" modes, meaning the search coil must be moving to detect a target.

Autotune Search Mode

Press the AUTO/I.D. pad to place the LCD marker over AUTO. Now you're in a very sensitive, widescan, all-metal, motion search mode. Since this mode responds to all metal targets and does not have the ability to identify or reject targets, this will probably not be your normal search mode. The AUTOTUNE mode has some advantages, however, that make it useful to use in at least two situations:



LCD when Autotune mode is selected and Target I.D. is deselected.

1. Non-Trashy Areas: Because the Autotune mode has a wider scan than the I.D. mode, you are less likely to miss a good target when searching in the Autotune mode. To realize the benefits of the Autotune mode, search in the Autotune mode until you find a target. Pinpoint the target using the SEARCH/PINPOINT pad and then push the AUTO/I.D. touch to switch to I.D. mode and identify the target.

2. Highly Mineralized Sand and Soil: The Autotune mode is recommended for black- or gray-sand beaches or highly mineralized soil. Under these conditions it may be necessary to lower the Sensitivity level by pressing the SENS pad and the left Arrow touch pad. Now sweep the search coil several inches off the ground. Gold nuggets

are generally found in highly mineralized soil so this will be the search mode of choice for prospectors.

NOTE: *In the AUTOTUNE mode, you will hear a slight `threshold" hum at maximum sensitivity but not of settings of 8 and lower.*

Target I.D. Search Mode

When the AUTO/I.D. control is set to I.D., the CZ-7a Pro has the ability to identify many types of small targets, and depending on the NOTCH discrimination settings, reject or ignore all of them, most of them, or any combination of them. To better understand just how your CZ-7a Pro responds to different targets, try the following:

1. Scatter some sample targets such as coins, rings, pull tabs, nails and foil on the ground at least 18 inches apart. Include some large targets as well: jar lids, soda cans, etc.
2. Using the NOTCH and Arrow pads, set the NOTCH control to accept all target categories. Set the sensitivity at 5, the SALT/NORM control to NORM and the VOL control to a comfortable level.
3. Ground balance the CZ-7a Pro as described in the section on Ground Balancing (see p. 17).
4. Hold the search coil about 2 inches above and parallel to the ground, and move it slowly back and forth across each sample. Remember, the coil must be in motion to get a response. Keep in mind that for accurate target I.D., the coil center must pass directly over the target.
5. Note the response you get over the small targets: For small iron or steel targets, the target-I.D. marker will usually lock on the "iron" category. Most pull tabs, foil, nickels and zinc

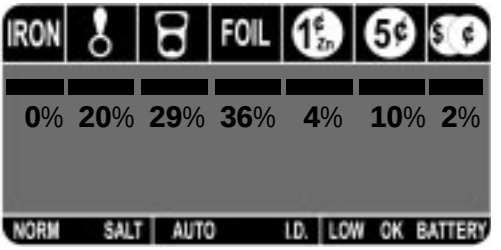
pennies will also be correctly classified. Silver coins, copper coins, and the newer clad coins will I. D. on the highest category.

6. Note that an elongated ferrous object such as a nail will give you a double "beep" as you cross it from end to end and a single "beep" if you cross its center.

7. Most silver rings will I.D. at the highest end of the scale. If you have enough gold rings you will note that most of them fall in the pull tab, foil and nickel categories. This is because the combination of size, shape and conductivity of a particular ring will almost always add up to a target that is electronically identical to either a piece of foil, pull tab or nickel. Most metal detectors have a difficult time separating gold rings, nickels, tabs and foil. But the patented circuitry of your CZ-7a Pro can easily tell the difference between nickels and most trash. Better yet, it will allow you to find many types of gold rings while completely ignoring at least some type of pull tabs and small pieces of foil.

8. Note also the different audio responses from the CZ-7a Pro: an iron target will give you a low tone, tabs and foil a medium tone and coins a high tone. Take a look at the Audio Response chart on the next page.

Its a sad-but-true fact that most gold rings look just like a piece of foil or pull tab to a metal detector. But all is not lost, as shown by this CZ-7a Pro I.D. display and a sampling of 255 gold rings. The percentages represent the number of gold rings I.D: ed in each target category.



9. When you go over a large, shallow target, the CZ-7a Pro will respond with a distinctive bell tone. This is because metal detectors can only identify small targets. What usually happens is the detector circuits overload and identify a large target as "good" (silver, coin, etc.). Your CZ-7a Pro, however, will alert you to a target that's big and shallow and cannot be accurately identified. (Big deep targets, however, will usually be classified as a coin. Also be aware that large coins on the surface may set off the bell tone. And the optional, smaller 5-inch coil is more likely to overload than the standard 8-inch coil.)

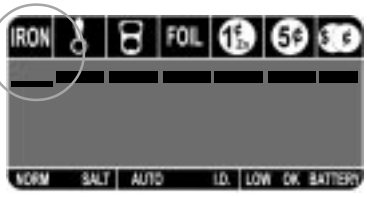
Audio Response Chart: CZ-7a Pro 3-Tone, Target-LD.

Low Tone	Medium Tone	High Tone	Bell Tone
Nails, wire and other iron trash	Round pull tabs, rectangular pull tabs. foil and most gold rings	Copper pennies, zinc pennies, nickels. dimes, quarters and a few gold rings	Soda and beer cans, pipes and other large, shallow targets

In addition to visual target identification, the CZ-7a Pro has 3-tone, audio target ID. A low tone is for iron, a medium tone Is for pull tabs and foil and a high tone is for coins. A fourth tone, which sounds like a telephone, alerts you to large, shallow targets that are usually (but not always!) trash.

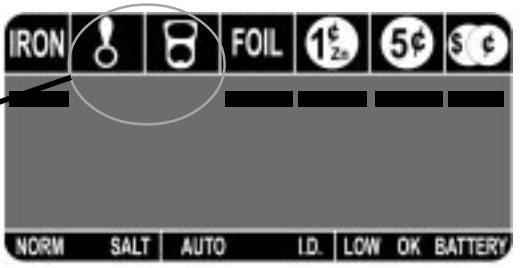
10. Now, using the NOTCH and Arrow touch pads, reject the IRON category by removing the marker from below the IRON icon. You will find that the CZ-7a Pro rejects small iron targets and no longer responds either with an audio tone or a display identification.

LCD in Notch mode with cursor below IRON icon and the IRON category rejected



11. You may also note that some rectangular tabs I.D. as round tabs and vice versa. Because of the wide variety of sizes, shapes and conductivity of the many pull tabs manufactured over the years, some overlap of identification occurs. Small pieces of tabs or aluminum are often misidentified; the tail of a round tab, for example, may I.D. as a nickel. However, most tabs and most of the targets on the CZ-7a Pro LCD will be identified accurately.

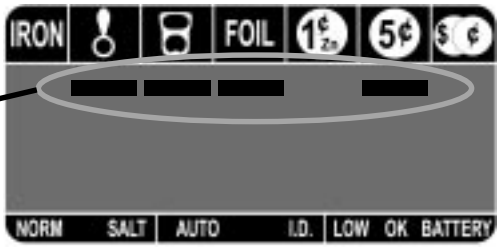
12. Continue to increase the number of your target categories by using the NOTCH pad in conjunction with the Arrow pads. You can reject (notch out) any combination of target categories. For example, if you're hunting for iron Civil War relics, you can reject every category except IRON. Or, if you're hunting in an area that's full of pull tabs, you can notch out pull tabs while accepting the IRON. FOIL and coins categories.



LCD in NOTCH mode with round and rectangular pull tabs rejected

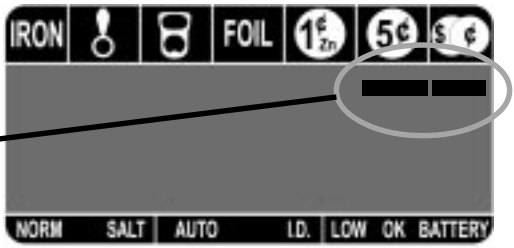
13. If you look at the Gold Ring Chart on p. 24, you'll notice that most (95%) of gold rings fall into the pull tab, foil and nickel categories. So if you're really serious about finding gold rings, use the setting shown below. You'll dig a lot of trash and you'll pass up some coins, but you'll be digging only those signals with the highest probability of being gold rings.

LCD in NOTCH mode set up for gold-ring hunting. If you're in an area that's loaded with round tabs, however, you could notch them out also. You'd lose rings that fail into that category, but you'd still get all the rings falling into the rectangular tab, foil and nickel categories, which includes 75 percent of gold-ring I.D.s.



14. Or, in another example, the favorite notch setting for coin shooters might accept just nickels and silver coins while rejecting all other target categories:

LCD in coins-only mode, accepting nickels, copper pennies and silver coins, while rejecting all other target categories.



15. Now switch the AUTO /ID. control to AUTO. Note the completely different kind of response. Your CZ-7a Pro is now in a super-hot, wide scan, all-metals mode with no tone or meter iidentification; just a solid, smooth response over every target.

SEARCHING

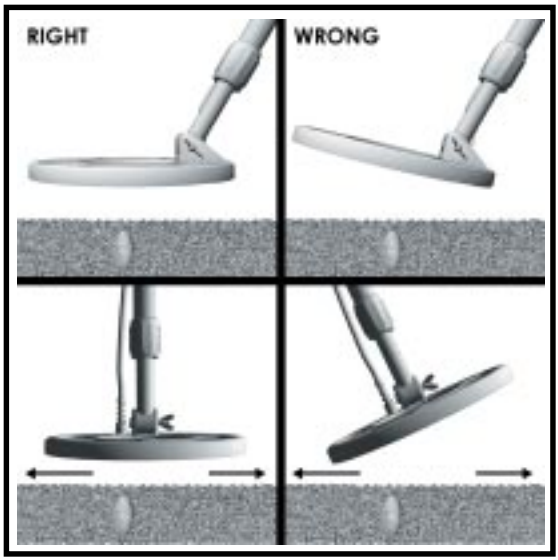
Good search techniques are every bit as important as having a good detector.

1. Make sure your CZ-7a Pro is properly ground balanced and the proper mode is selected: SALT for wet ocean beaches and NORM for just about every other situation.
2. If you're going to use the I.D. mode, decide which targets you want and don't want, and set up your Notch function accordingly.
3. Remember, a volume setting above 4 will amplify the response of faint, deep targets so that they sound like shallow targets. Some searchers will prefer not to use this "Audio Boost" feature so the audio response will give them some clue as to the target's depth or size.
4. Only experience will tell you how to set your sensitivity in every situation, but you'll probably want to run it as high as you can. Start at 6 and turn it up to 10 if you're not getting a lot of false signals. If you do experience a lot of problems, you're probably in some highly mineralized soil or an area with a lot of deep iron trash. In this case, reduce your sensitivity.

Sweep the search coil in a tight semicircle in front of you.

5. Once your controls are properly set, press and release the SEARCH touch pad, and move into your search position as described in the drawing on pg. 6. Begin your search by walking slowly and sweeping the search coil in a tight semicircle.

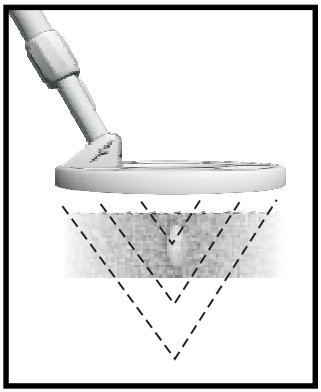
6. Keep the coil parallel to the ground and as close to the ground as practical. This is extremely important for maximum coverage and depth. If you're searching on a lawn, you may set the coil right on the grass and lightly "scrub it."



Keep the search coil as close to the ground as possible for greater penetration, and make sure the search coil remains parallel to the ground as you search.

7. Overlap your sweeps by at least 50 percent. Remember that your coil's search pattern in conical and if you don't overlap each sweep you'll miss the deeper targets.

8. Search in a methodical manner. Pay close attention to where you're going and where



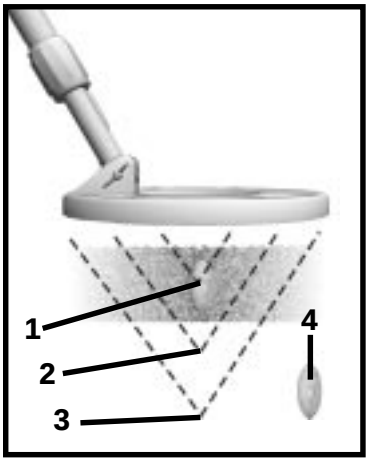
The conical search pattern of the CZ-7a Pro search coil means you'll get better ground penetration and coverage by overlapping your sweeps.

you've been so that you don't retrace your steps or miss any productive areas.

9. Keep the search coil moving at a comfortable rate. Remember: the CZ-7a Pro is a motion detector and responds only when the search coil (or target) is moving (except when in the no-motion Pinpoint mode).

10. Take your time. If you walk too fast you can overlap your sweeps and you'll miss a lot of ground. If you swing your coil too fast, you could lose some sensitivity to deep and/or small targets.

11. The illustration below shows the CZ-7a Pro search coil pattern and how it is effected by sweep speed, ground mineralization and search mode.



Effects of sweep speed, ground mineralization and search mode

1. **Minimum depth**
   - **a.** Very slow or very fast sweep speed
   - **b.** Highly mineralized soil.
   - **c.** Target I.D. search mode
2. **Good depth**
   - **a.** Moderate sweep speed
   - **b.** Moderately mineralized soil
   - **c.** Target I.D. search mode
3. **Maximum depth**
   - **a.** Moderate sweep speed
   - **b.** Non-mineralized soil
   - **c.** Autotune search mode
4. **Missed target**
   Many targets well within the range of you CZ-7a Pro will not be detected unless you overlap your sweeps.

Unlike other metal detectors, the discrimination settings have little if any effect on the depth capability of the CZ-7a Pro. Note, however, that the all-metal Autotune mode has a wider search pattern and may detect a little deeper. Depth is also determined by the size, shape and conductivity of the target as well as the sensitivity setting of the CZ-7a Pro.

PINPOINTING/DEPTH READING

Pushbutton Pinpoint Mode

Target location is quick and easy using the SEARCH/PINPOINT touch pad. And when you pinpoint your target, your CZ-7a Pro will give you an approximate (usually within an inch or so) depth reading for coin-sized targets. It doesn't matter which mode you're in (ID. or Autotune), and you don't have to keep the search coil in motion to get a response as long as the SEARCH/PINPOINT pad is pressed.

1. Once the presence of a target is indicated by the "beep-beep" of your CZ-7a Pro, simply move the coil at least 1 foot away from the target area (and any other metal), and set it lightly on the ground.

2. Press and hold the SEARCH/PINPOINT pad. After a brief pause, a scale from 0 to 10, a MARKER and the word "INCHES" will appear on the LCD.

3. Still pressing the SEARCH/PINPOINT touch pad, bring the search coil back over the target area. Note that as you approach the target, the volume and pitch increase. Also, the marker will indicate signal strength and approximate depth. The farther to the right the marker goes, the weaker the signal and the deeper the target.

4. Slowly move the coil from left to right, forward and backward over the target, until you can determine exactly where you get the strongest response as indicated by volume., pitch and LCD marker.

5. With your thumb still on the SEARCH/PINPOINT pad, stop the coil and rest it lightly on the ground.

6. Note the position of the LCD marker. If, for example, the marker is over the 4 (and your target is coin-sized), your target should be about 4 inches below the center of your search coil.

7. If you're more interested in finding your target

quickly than in getting an accurate depth reading, don't worry about moving your coil at least "1 foot away" (as in step 1) and placing the coil "lightly on the ground" (as in steps i and 6). Just press the SEARCH/PINPOINT pad and zero in on the strongest response. Also, remember that you can pinpoint targets of any size but you can only get accurate depth readings for coin-sized targets.

NOTE: *For quick and accurate pinpointing of strong signals from large or shallow targets, press and hold the SEARCHIPINPOINT pad with the coil very close to the approximate target area. This will `tune out" most of your target so you will only receive a response directly over or very nearly directly over it. You may also try reducing the sensitivity level and/or raising the coil so you can just barely hear the signal. For very weak signals, make sure you press the SEARCHIPINPOINT pad with the coil completely out of the target area. You may also try moving the coil closer to the ground or increasing the sensitivity and volume levels.*

TARGET IDENTIFICATION

Target identification with the CZ-7a Pro is quick and easy; just keep in mind these four rules:

1) You must be in the Target I.D. mode. If you're searching in Autotune, locate a target and then switch over to target I.D. by pressing the AUTO/ I.D. touch pad.

2) For accurate identification, the center of the search coil must pass directly over the target.

3) There are many good targets that are not classified by the CZ-7a Pro. As mentioned earlier, gold rings, for example, may fall into just about any category except iron. Many foreign coins, especially the newer ones, may ID. as foil or pull

tab. Gold nuggets, depending on their size and shape, may fall into just about any category, the smaller nuggets falling on the lower half of the scale. So if you're not just looking for U.S. coins, you should test some sample targets to determine what level of discrimination you want to work at and what targets you want to dig.

4) Your CZ-7a Pro will correctly identify most small targets most of the time, but it can be foooed. Large targets, uneven ground mineraiization, a good target lying next to a bad target, deep targets, all of these and more are sources of error. Remember, the CZ-7a Pro is designed to ID. small, coin size targets only, and even some of these may be deep enough, bent, damaged, or corroded enough to give a false signal.

Keeping these four rules in mind, follow these steps for accurate target identification.

1. Once you've located a target, pinpoint its exact location as in the "Pinpointing' procedure (see p. 24). Since accurate I.D. is dependent on accurate pinpointing, it is recommended that you press the SEARCH/PINPOINT pad rather than try to pinpoint your target in either the Autotune or Target I.D. mode.

2. Once you've pinpointed your target, release the SEARCH/PINPOINT pad. If you're searching in the Autotune mode, switch over to the I.D. mode.

3. Move the coil just enough, left-right-left, across the target to get a good signal. The LCD marker should lock onto a target classification which in turn will agree with the audio response (high, medium or low tone).

4. If you no longer get a meter reading or audio response once you've pinpointed the target, you're over something that you've notched out and the CZ-7a Pro is rejecting it.

TARGET RECOVERY

Once you have identified and pinpointed your target, your objective is to recover it quickly and neatly, leaving virtually no trace of your excavation. There are almost as many ways to do this as there are Treasure Hunters. Whatever works for you is good enough as long as you don't break any laws, damage vegetation, or leave uncovered holes.

Generally speaking, beachcombers do little if any damage to the environment while recovering targets. However, if you plan to use your CZ-7a Pro on lawns or in parks, your target recovery methods can be very important. Two of the most successful methods are illustrated in a separate booklet enclosed with your CZ-7a Pro.

Whichever method you choose, remember that responsible treasure hunters take pride in their ability to leave soil and vegetation intact and undamaged.

Recovery Tools

1. A heavy-duty, blunt screwdriver is commonly used by expert Treasure Hunters and is the tool of choice for cut lawns.

2. A sturdy hunting knife with a 5-inch blade will do the job on most other soils. A high-quality double edge "survival" knife is an even better (and more expensive) choice because it will be almost impossible to bend or break.

CAUTION: *Using a knife without a locking blade is a good way to lose a finger!*

3. A narrow garden trowel will work in loose or wet soil.

4. Several excellent digging tools are made just for the Treasure Hunter, and specially designed sand scoops are available for beachcombing.

5. A thin, dull probe is the preferred tool for precise target location.

FALSE SIGNALS

A "false signal" occurs when a target is incorrectly identified. For example, a small broken-off piece of pull tab may be identified as a nickel. Or a small deep coin, especially in mineralized soil, may read "IRON." The more sensitive the metal detector, the harder it is NOT to have false signals. Your CZ-7a Pro is an extremely sensitive machine, so you're bound to encounter false signals. Here are some of the most-frequent sources of false signals and what to do about them:

1. Trash: The most common source of false signals. Large or irregular pieces of trash may give positive, lock-on false signals, In this case, you'll usually have to dig the target, but with experience you'll be able to eliminate many of the large targets whose size will be obvious when you go into the pinpoint mode. In the no-motion pinpoint mode, you'll be able to judge the large dimensions of the object as you pass the search coil over it.

Another false signal response may be a "one-way" or disappearing signal. You'll sweep over the target and get a good signal but you'll get nothing on the return sweep. When this happens, you're over a target that the CZ-7a Pro can't positively identify due to its size, shape, depth or metallic composition. For example, the CZ-7a Pro may I.D. a target as a coin when swept in one direction and iron on the return sweep. If your discrimination setting doesn't reject coins or iron, you'll hear a high tone (for coin) sweeping one way and a low tone (for iron) the other way. Or if your discrimination setting rejects iron, you'll hear a high tone sweeping in one direction and nothing the other way.

Quite often the signal will just disappear and you won't be able to find it no matter which direction you sweep. These one-way and disappearing signals are usually trash, and as a general rule you should ignore them. If you have any doubts, press the PINPOINT/SEARCH pad to get an accurate location and then I.D. the target. If you still get a

one-way signal or it disappears, move on. Also, if your pinpointing location is different than your I.D. location, your target is probably a piece of iron.

Using the small 5-inch coil and/or reducing your sensitivity level will also reduce the number of false signals caused by trash.

2. Deep Targets: Deep targets. just barely within the range of the CZ-7a Pro, may be misidentified. For example, a deep coin may I.D. as iron or a deep piece of iron may I.D. as a coin. There's not much you can do to avoid this other than to use your pinpoint mode to ensure that you are exactly centered over the target. Or you may reduce your sensitivity level so you just ignore the very deepest targets. Fortunately, misidentification of deep targets is not what usually happens. It's the exception to the rule.

3. Electrical Interference: Constant chatter caused by radio/TV stations, power lines or nearby detectors operating at one of the CZ-7a Pro search frequencies. The best solution is to move away from the source of the interference. You may also try one of the following: Switch to the Autotune mode. Reduce your sensitivity level. Slow down your sweep speed. If the interference is only minimal and you wish to continue searching anyway, test your CZ-7a Pro over a known target to make sure it's operating properly. Inside some buildings, electrical interference may be so bad that you'll have to go outside just to bench test your CZ-7a Pro.

4. Highly Mineralized Soil: May cause a belltone response or constant false signals. Check your ground balance (better yet, ground balance using the "Bobbing" method) and make sure your detector is in the ID search mode. Then try lowering the sensitivity. Use a smaller search coil. Search in the Autotune mode. If all else fails, raise the search coil just high enough for the false signals to disappear and then sweep at that constant height.

5. Black Sand: Same as Highly Mineralized soil.

6. Wet Sand: Your CZ-7a Pro should be able to handle most wet sand easily unless it's black (see Black Sand #5). Chances are, if you're having trouble in wet sand, you've forgotten to switch your NORM/ SALT touch pad to SALT and re-ground balance when you moved from dry to wet sand. If that's not the problem, lower your sensitivity.

7. Hot Rocks: Some rocks, by virtue of their higher mineral content, will be seen by metal detectors as a metal target. In the Autoune mode, the CZ-7a Pro will respond to most hot rocks. Prospectors (who will most likely be using the Autotune mode in an area where hot rocks abound), however, will learn to distinguish between hot rock and nugget sounds. In the target ID mode, certain types of hot rocks will be identified as iron or rejected (if you have notched out iron).

8. "End of Swing:" Silent-search motion detectors often give false signals at the edges of the search pattern-just as the coil stops and begins accelerating back toward the operator. If this is a problem, try one or more of the following: Keep your sweep smooth, slow and low to the ground. Don't raise the search coil at the end of each swing. Check your ground balance. Use a smaller search coil. Lower your sensitivity. Make sure your search coil is properly secured, the cable connector is firmly tightened and the cable is tightly wound around the lower end of the lower stem to avoid any free play while swinging.

9. Elongated Ferrous Objects: If you get two beeps close together and can't find either target, you may be near a nail or some other long ferrous object. Fortunately, in most cases your CZ-7a Pro will identify these objects correctly, they just won't be where you think they are. In all cases, the target will be between the beeps, or if you sweep at right angles to your original direction, you'll receive a single beep right over the target.

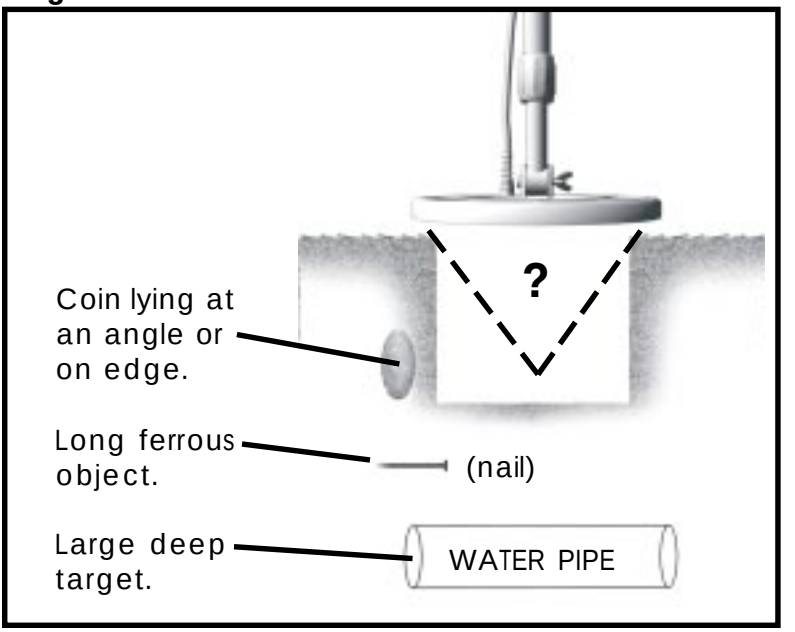
10. Other Targets that Aren't There: Good, lock-on, repeatable signals but nothing there.

a) Shallow coins (at or near the surface) or coins on edge will give a double beep, one on either side of the coin, just like a nail. Like the nail, the coin on edge will give a single beep directly over the target if you sweep at right angles to your original direction.

b) A coin lying in the ground at an angle (as shown in the drawing below) may give a single target response but may pinpoint several inches away from its true location. Check around the inside edges of your hole. If you still don't find it, enlarge the hole by a couple of inches.

c) A large, deep target, like a buried pipe or manhole cover at 2 feet, will often give a good strong coin signal. If you get a depth reading of 4 inches and you've dug down a foot and widened your hole several times, give it up.

Targets that aren't there



1. It's always a good idea to walk slowly and overlap your sweeps. But if you're searching a large expanse of new territory, you may want to walk a little faster and not overlap your sweeps as much until you start making a few good finds, Then, slow down, overlap your sweeps and cover every inch of ground.

2. In trashy areas, to reduce the "masking" effects of trash on nearby good targets, use a shorter and slower sweep pattern. If you're going to be hunting exclusively in this type of ground, you may be better off equipping your CZ-7a Pro with the smaller, 5-inch coil. It will zero in on good targets closer to trash.

3. Recheck your ground balance occasionally.

4. Here's a quick and easy way to tell the difference between a small, shallow piece of foil and a gold ring (or other possibly good target) without digging: If you get a good solid FOIL I.D., set the search coil down close to the target and then whip it rapidly across the target just once with what can best be described as a flick of the wrist. If the target disappears, it's probably a small, shallow piece of foil. if not, dig it up-it could be that gold ring you're looking for. Practice this over some foil until you get the hang of it.

5. Don't be afraid to turn your sensitivity down. True, the higher the sensitivity, the deeper your CZ7a Pro will go, and the more you'll find. But that's only under optimum conditions. If you're getting a lot of false signals caused by electrical interference, ground mineralization or dense trash, lower your sensitivity. If you have to back it down to 4, or even 2 to eliminate the false signals, do it. That's what your SENSITIVITY control is for. You'll be surprised at how much you might find in an area that would otherwise be unsearchable at high sensitivity levels.

6. Set your notch level carefully. Don't notch out any more than you have to. Remember that many good targets fail into those so-called "trash"

categories. If you're in an area with very little trash, you may not want to notch out anything other than iron. On the other hand, if you're looking for coins in an extremely trashy area, you may even want to notch out zinc pennies and nickels and concentrate on the copper, clad and silver coins. If you're looking for relics, artifacts or small ancient coins, you'll have to keep your notches to a minimum. The best way to find out just how much you can notch out is to bury some sample targets or just dig everything for awhile until you get a feel for which target classifications will be the most productive. If you're looking for gold rings, go back and read the Target I.D. section under "Search Modes." (page 23)

7. Look for repeatable signals and don't waste time on disappearing or one-way signals. If you hear a good beep but can't repeat it when you've pinpointed it in the Pinpoint mode, or if it beeps in only one sweep direction, it's probably a piece of trash-something you've notched out.

8. If you're in a relatively non-trashy area, try searching in the Autotune mode and then identifying your targets by switching to the I.D. mode with nothing notched out. You'll find more and deeper targets this way.

9. If you're having any difficulty pinpointing or identifying a target in the I.D. mode, don't waste any more time. Press the SEARCH/PINPOINT touch pad for quick pinpointing, then release it for accurate I.D.

10. If your target disappears when you go into the Pinpoint mode, you've probably tuned it out by pressing the button too close to the target or over another piece of metal. Try again, this time pressing the PINPOINT touch pad over another piece of ground.

11. Don't waste a lot of time digging holes for targets you can't find. If your hole keeps getting

deeper and wider, cover it up and go on. You may be over a buried pipe or some other large deep target.

12. When in doubt, dig. If your CZ-7a Pro can't quite decide whether a target is good or bad, dig it up.

13. Good things often come in twos. Or ever? threes. Once you've recovered a good target, always recheck the hole for a second signal and carefully search the immediate area by walking slowly around the hole two or three times, overlapping your sweeps in an ever-widening circle.

Always dig every suspicious sound in the vicinity of a good find.

14. Recheck your hole even if your find was trash. Good targets are often found beneath bad ones.

15. Practice. Practice over known targets. Practice ground balancing. Practice pinpointing. Reread the appropriate part of this manual if you're having problems.

BATTERY REPLACEMENT

Three battery markers showing on the LCD indicate fully charged, or nearly fully charged batteries. Two markers mean that the batteries have been used for several hours but are still well within operating range. One or no markers mean that it's time for new batteries. Two 9-volt transistor batteries are located in separate compartments on the underside of the control housing.

1. Remove the control housing from the handle grip by holding the grip in one hand and sliding the control housing toward you.

2. Remove the battery doors by gently lifting the two tabs at the end of the control housing.

3. Remove the batteries by pulling on the nylon straps attached to the bottom of the battery compartments.

4. Install fresh alkaline batteries and reinstall the battery covers. Make sure the batteries are positioned properly as indicated by the "+" polarity markings inside the battery compartments.

If either or both of the batteries are installed incorrectly, the CZ-7a Pro will simply not turn on. The detector will not be damaged.

MAINTENANCE

Your CZ-7a Pro doesn't require a lot of care. It's built with high-quality materials and it's splashproof and dustproof. But there are a few things you should do to keep it in peak operating condition.

1. If you're not going to be using it for a while, take the batteries out. Acid damage caused by leaking batteries can be severe.
2. Avoid extreme temperatures. Don't leave it inside a closed car that's sitting in the sun. Or even worse, the trunk of a car.
3. If you "scrub" the search coil on the ground, you'll eventually wear through the bottom of the coil. Replacement coils are expensive. Instead, invest in a coil cover; they're cheap.
4. Keep your CZ-7a Pro dry and clean. If you've been working in or around salt water or dust, wipe it down with a damp cloth and dry it with a hair dryer (low or no heat) or a dry cloth. Remove and clean the lower stem. Keep the lock nuts free of sand and dirt.

SPECIFICATIONS

Operating Modes

1. Autotune ..... VLF-Motion. all-metal with threshold tone [6]
2. Target I.D. ..... VLF-Stow Motion. Silent-Search Discrimination [6]
3. Pinpoint Depth Reading ..... VLF. All-Metal. No Motion

Frequency ..... Dual. VLF Search [4] 5 kHz and 15 kHz
Manual Ground Adjust ..... Yes

Search Coil

Type ..... "Spider" Coil, Concentric, Co-Planar
Diameter ..... 8"
Shielding ..... l00% ESP [9]
Interchangeable ..... Yes, with CZ-5, CZ-6a, CZ-7 or CZ-7a

Weatherprooting

Search Coil ..... Submersible
Control Housing ..... Splashproof [11]
Speaker ..... Splashproof

Visual Display ..... Custom Liquid Crystal Display

Batteries ..... (2) 9-volt Alkaline, [12] transistor, drop-in
Battery Life
Alkaline ..... 15-20 hours (3-5 hrs with Nite Light on)
Battery Status ..... Automatically tested and displayed (3 levels)

Threshold Tone ..... Autotune Mode Only

Weight

Complete ..... 3.8 lbs.
Control housing ..... 1.3 lbs.
Handle and coil ..... 2.5 tbs.

Audio Target Response

Iron I.D. ..... 200 Hz (Low tone)
Foil and Tab I.D. ..... 450 Hz (Mid tone)
Coin I.D ..... 1 kHz (High tone)
Autotune ..... 500 Hz-1 kHz (VCO) [5]
Pinpoint/Depth Reading ..... 500 Hz-1 kHz (VCO)

Audio Output

Speaker ..... Built-in
Stereo Headphones ..... (optional)
Waterproof Headphones ..... (optional)

Target I.D.

LCD ..... Lock-On, 7 categories
Tone ..... 3 Tones plus Bell
Tone for large shallow targets (I.D. Mode only)

Faint Target Audio Boost ..... Yes[8]

Hipmountable

Control Housing ..... Yes
Wet sand operation ..... Yes[7]

Operating Temperature ..... 32° to t20° F
Storage Temperature ..... 20° to 150° F

Length [2] [3]

Extended ..... 52"
Collapsed ..... 41"

Warranty ..... Limited Lfetime Warranty[10]

Notes

1. Subject to improvement or modification without notice.
2. Approximate
3. The CZ-7a Pro disassembles to fit into an optional carrying case measuring approximately 6 x 21 x 15 inches.
4. The CZ-7a Pro Fourier Domain Signal Analysis System transmits two ground-balanced signals simultaneously for deeper target LD. in mineralized soil,
5. VCO: Voltage Controlled Oscillator, Volume and frequency increase over target for pinpoint accuracy.
6. The CZ-7a Pro is a "motion detector in the Autotune and Target LD. Modes. The search coil must be moving- at least slightly, to detect a target.
7. Compensates for salt water and sand minerals simultaneously.
8. Volume Control limits loud target respouses and amplifies taint responses.
9. E.S.i.: Electro Static insulated to reduce certain types of false signals,
10. The length and terms of the warranty will vary outside the U.S. Check with your distributor for detarts. Fisher Research Laboratory does not warrant suitability to specific use. Fisher Research Laboratory shall in no event be liable for any direct. incidental, consequential or indirect damage.
11. The control housing is completely splashproof (including the speaker) only when a headphone plug or the captive phone-jack plug is fully inserted.
12. Carbon-zinc and Nicad batteries not recommended.

QUALITY

Fisher detectors are renowned for their quality.
Each instrument is hand crafted in the USA with pride

PERFORMANCE

Our detectors are durable, dependable, and search deeper.

REPUTATION

Fisher produced the first patented metal detector in 1931. For over 70 years, the Fisher logo has been a mark of excellence.

LIFETIME WARRANTY

Fisher believes in the products we produce and backs this belief with a Limited Lifetime Warranty, Warranty may vary outside the United States. See your dealer for details

SERVICE

Fisher is committed to providing you, our valued customer, with superior service. Each and every instrument is rigidly tested and carefully inspected during assembly and before shipment.
Should you have any questions or problems, contact:

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